

REMARKS

In an Office Action mailed on June 30, 2004, claims 1, 2 and 14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Fang; claims 3-5, 20, 21 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fang in view of Kan; claims 15-17, 19 and 27-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kirkman in view of Kan; and claims 6-13, 18, 22 and 24-26 were objected to as being dependent upon rejected base claims but were indicated as being allowable if rewritten in independent form.

Previously dependent claims 6, 18 and 24 have been rewritten in independent form as newly added independent claims 30, 38 and 42, respectively. Therefore, for at least the reason that dependent claims 6, 18 and 24 were indicated as being allowable if rewritten in independent form, allowance of newly added claims 30-44 is requested. The §§ 102 and 103 rejections are addressed below.

§§ 102 and 103 Rejections of Claims 1-5 and 14:

The printed circuit board of independent claim 1 includes a supply voltage plane that is supported by a printed circuit board substrate. The supply voltage plane is embedded in a signal layer of the board to supply power to multiple supply voltage pins of a component that is mounted to the printed circuit board.

Claim 1 now stands rejected under 35 U.S.C. § 102 as being anticipated by Fang. In particular, the Examiner refers to Fig. 5 of Fang to allegedly teach the limitations of claim 1. However, referring to Fig. 5b of Fang, this figure discloses a power patch 46 that is part of a top mounting layer 12. The Examiner contends that the power patch 46 allegedly constitutes the supply voltage plane of claim 1. However, there is no teaching or even a suggestion in Fang that the power patch 46 supplies power to multiple supply voltage pins of a component that is mounted to the printed circuit board. Instead, Fang describes a power plane 20 that, as depicted in Fig. 5b, supplies power through vias to components that are mounted to the printed circuit board, such as the capacitor 52 and the resistor and current source that are depicted at reference numeral 36 in Fig. 5b. However, there is no teaching or suggestion in Fang that the power patch 46 is connected to pins of a component that is mounted to the printed circuit board, as recited in claim 1. Thus, Fang fails to anticipate claim 1.

Claims 2-5 and 14 are patentable for at least the reason that these claims depend from an allowable claim. Therefore, for at least the reasons that are set forth above, withdrawal of the §§ 102 and 103 rejections of claims 1-5 and 14 is requested.

Rejections of Claims 15-17 and 19:

As set forth in the previous replies and in the Reply Brief, Kirkman is directed to a semiconductor device and teaches away from its combination with a larger structure, such as the surface mount arrangement that is disclosed in Kan. Thus, for at least this reason, a *prima facie* case of obviousness has not been established for independent claim 15. Furthermore, the Examiner fails to show where the prior art contains the alleged suggestion or motivation to modify Kan's structure to incorporate features from Kirkman in Kan's printed circuit board. Without a showing of this alleged suggestion or motivation in the prior art, a *prima facie* case of obviousness has not been established for independent claim 15. M.P.E.P. § 2143.

Claims 16, 17 and 19 are patentable for at least the reason that these claims depend from an allowable claim. Thus, for at least the reasons that are set forth above, withdrawal of the § 103 rejections of claims 15-17 and 19 is requested.

§ 103 Rejections of Claims 20, 21 and 23:

Claim 20 now stands rejected under 35 U.S.C. § 103(a) in view of the combination of Fang and Kan. However, neither reference teaches or suggests embedding an associated supply voltage plane in a signal layer of a printed circuit board to provide power to a component that is mounted on the printed circuit board. Although the Examiner relies on Fang to allegedly teach embedding an associated supply voltage plane in a signal layer of a printed circuit board to provide power to a component that is mounted on the printed circuit board, Fang does not teach or suggest these claim limitations, as discussed above in connection with claim 1. Thus, for at least this reason, a *prima facie* case of obviousness has not been set forth for claims 20, 21 and 23. Therefore, withdrawal of the § 103 rejections of claims 20, 21 and 23 is requested.

§ 103 Rejections of Claims 27-29:

As set forth in the previous replies and in the Reply Brief, Kirkman is directed to a semiconductor device and teaches away from its combination with a larger structure, such as the surface mount arrangement disclosed in Kan. Thus, for at least the reason that one of the references teaches away from its contradiction with the other reference, a *prima facie* case of obviousness has not been established for independent claim 27. Furthermore, the Examiner fails to show where the prior art contains the alleged suggestion or motivation to modify Kan's structure to incorporate this structure in a printed circuit board. Thus, a *prima facie* case of obviousness has not been established for independent claim 27.

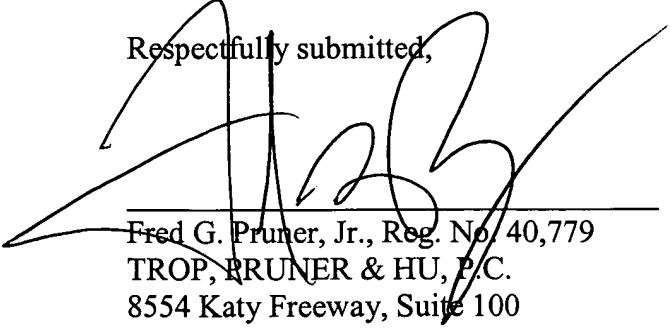
Claims 28 and 29 are patentable for at least the reason that these claims depend from an allowable claim. Therefore, for at least the reasons that are set forth above, withdrawal of the § 103 rejections of claims 27-29 is requested.

CONCLUSION

In view of the foregoing, withdrawal of the §§102 and 103 rejections and a favorable action in the form of a Notice of Allowance are requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (ITL.0644US).

Respectfully submitted,

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